

# The definition of “medical intervention” biomedical aspects

## Abstract

Medical intervention concept, considering legal and biomedical aspects, is highlighted in the article. The question of medical specialists work specifics is discussed. The examples of medical intervention notion definition are presented, with indicating the positive and negative aspects. The definition of the term “medical intervention” from the point of view of biomedicine is proposed. The statement, that medical intervention is, in fact, also an environmental factor affecting the human adaptive system, is in a base of definition. And this definition is concept, which is proposed for further discussion.

**Keywords:** medical intervention, medical activity specific, concept of medical intervention

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## Introduction

Medical intervention is in the medical activity basis. Actually, it is the main thing that defines doctor-patient relations. This is why the correct term understanding is of big importance. It is important that the general principle of medical intervention was understood for medical specialists and for patients, and for society as a whole.

All medicine history is the attempt of one human to help another sick human. Along with experience and knowledge accumulation such “attempt” gradually becomes medical intervention, which has scientific, practical and legal basis. And a society designates the people–medical specialists—who are entrusted to carry out medical action at other society members. However, it is important to remember that at its beginnings (by origin) medical intervention—is always an attempt. Medical activity is unjustly classified as service sector, forgetting frequently about doctor work specifics. Medical specialists deal not just with complicated human organism, but actually with multi-level patient adaptive system, dynamically changing under external environmental factors.<sup>1</sup>

In fact human (and animal) diseases – are adaptation diseases, it’s connected with general adaptation law, and if we want to elude disappointing troubles in medical practice, it is necessary should pay all attention to this law with all its specific manifestations.

Actually, all so called pathological processes and diseases—are only adaptive processes peculiarities, connected with subjective suffering (pathos).

Of course, the science of human health has many achievements. And doctors became more confident in their interventions. Predictive confidence. It allows to “lock in” the disease in clinical protocols. It facilitates the work of physicians, medical bureaucrats and insurance companies. But, this is deceptive well-being. And an example of this is the growth of cardiovascular diseases, the growth of chronic conditions etc. And everyone is well aware of cases when everything was done correctly, medical intervention was not dangerous, well tested, but the result - negative.

People - patients certainly similar, but different. Therefore, it is impossible to be very self-confident, even with not big medical interventions. A confident doctor is good. Patients feel his/her confidence. But at the same time, the physician must “keep in mind”:

I will try to cure this patient. And not “I will cure this patient.” The difference here is not too noticeable, but significant. The responsible doctor understands that with regard to modern methods of treatment, the methods of the beginning of the century are primitive. And in 10-15 years, and even earlier, modern methods will also become primitive. This is progress. But it is also proof that the human body (if) allows to reveal secrets; however the “field in the shadow” is still very large.

So, now, an attempt to help may be successful and can also be negative, because the treatment methods are much better than the old ones, but they are already relatively imperfect. It’s wonderful that the balance is redistributed to the side - successful. More and more. But, the humanity is changing, the environment is changing, and new health problems can get systemic status. For now, there is the impression that the healthcare system is lagging behind.

Medical intervention treats the disease, solves the problem of health. This is obvious ... for most people. But, this should not be obvious to medical professionals. Physicians and especially young specialists should see not only the clinical protocol, but also see what is actually happening in conjunction: the doctor - the medical intervention—the patient.

At first glance medical intervention is aimed at certain medical problem solving. However, in this case the connection “cause-effect” is somewhat more complicated. The thing is that medical problems solving is achieved through (via) expected human organism reactions that appear as response to external factor (medical intervention) effect. That is to say the chain from medical influence (cause) to medical problem solving, or clinical result (effect) is more prolonged. There is an important link in the middle – organism reaction in response to medical intervention. Medical activity specifics are in many aspects determined by this link presence. Human organism always responds by adaptive reactions to various environmental factors. Medical intervention is also external factor. However, its main difference is that medical specialists can to a large extent prognosticate the result of its influence on human. However, they can only make prognosis. This is known risk of any medical intervention. All people are different; therefore, expected response reactions to the same medical intervention in several patients may differ. Because of the same reason application of the term “guarantee” to physician work is not correct.

Thus, appearance of additional external factor (medical intervention) among other factors, already reacting with organism (including pathogenic, morbidic effects) is designated to change general adaptive reaction in such a way to eliminate negative reactions (illness, health problem).

Medical activity—is specific human relations sphere, first of all because medical specialists through medical interventions change (make react) individual patient adaptive system.

In other words, medical intervention may be estimated as external factor, controlled by medical specialist, which causes expected adaptive reactions in patient organism.

Actually, medical intervention causes adaptive reactions, which change organism defense system in such a way that “socially uncomfortable” reactions (for example, pain syndrome) change to “socially comfortable”, or prevention (prophylaxis) of possible health problems takes place. Correction of very complicated human adaptation system takes place.

However, if such correction result is expected and foreseen in a human as an average biological species representative, in individual (particular patient) prognosis of medical interventions results is always ambivalent.

In other words, medicine solves problem of human species adaptation through direct help to an individual, who potentially has large differences in adaptive integrated response to external influence.

In real life differences between protocol standards (patient as generalized biological species representative) and clinical cases (patient as unique biological species representative with its personal peculiarities)—are well-known evidences that confirm medical activity specificity. Therefore, prognostic problems in any medical intervention demand adequate legal regulation, which should necessarily consider the difference between biological and medical (socially provided) “health” conception.

As very specific and widespread example of inter-personal relationships, medical intervention should have clear definition. Incorrect understanding of the term will logically cause incorrect legal assessment of medical professional’s activity.

## Discussion

Definition (from latin definitio - boundary) means determination. Definition fixates major differences that constitute any conception content.

It should be noted that in documents regulating medical activity, in scientific works “medical intervention” term has not yet received the necessary final interpretation from solidary biomedical-legal position.

Take for example “medical intervention” definition from the Declaration on the promotion of the patient’s rights in Europe (1994); Medical intervention=Any examination, treatment or other act having preventive, diagnostic, therapeutic or rehabilitative aims and which is carried out by a physician or other health care provider.

World Health Organization presents the International Classification of Health Interventions (ICHI) /<https://www.who.int/classifications/ichi/en/>, where the definition of medical intervention is given: “A health intervention is an act performed for, with or on behalf of a

person or population whose purpose is to assess, improve, maintain, promote or modify health, functioning or health conditions. ICHI covers interventions carried out by a broad range of providers across the full scope of health systems and includes interventions on: diagnostic, medical, surgical, mental health, primary care, allied health, functioning support, rehabilitation, traditional medicine and public health.”

Article 42 of the Ukrainian Law “Basic Laws of Ukraine on Health Care” (Supreme Council of Ukraine; dated 19.11.1992 # 2801-XII) interprets medical intervention as follows: “usage of diagnostics, prevention or treatment methods, connected with influence on human organism...”

More examples regarding the definition of medical intervention: “An activity directed at or performed on an individual with the object of improving health, treating disease or injury, or making a diagnosis.”<sup>2</sup>

“The act or conduct of diagnosis, treatment, or operation.”<sup>3</sup>

The authors of above-mentioned wordings confined themselves only to formal specification of basic medical activity spheres, unjustifiably narrowing (simplifying) “medical intervention” term definition. In the scientific work by Sergeyev Y.D., and Mokhov O.A. Principles of Medical Law of Russia authors indicate:<sup>4</sup> “medical intervention as legal, direct or indirect action on human organism, aiming at diagnostics, prevention, disease treatment, unwanted pregnancy prevention, as well as satisfaction of other individual needs, carried out by specially prepared person – physician, medical attendant, nurse or healer.”

The positive aspect of the wording is mentioning of legal conditions of medical intervention application. That is, the very important sign of “medical intervention” definition – is medical influence legality.

The general drawback of the abovementioned “medical intervention” definitions is the attempt to give complete listing of medical intervention types that negatively effects definition brevity.

Such an important common medical intervention features as its “dosage” and intervention aiming at expected (foreseen) result are absent in these definitions.

It should be stressed that the presented problems solving is achieved through organism response reactions (human adaptive system work). This allows demonstrating better doctor work specificity. The following variant of “medical intervention” term definition is proposed: Medical intervention—is legal dosed influence on human, in order to receive as response, organism’s expected reactions, aimed at medical and other problems solving in the interests of this individual.

It should be explained; why this definition has no indication that medical intervention is made by doctor or other medical worker. The thing is that this question may be further discussed. There are indirect medical interventions, where medical specialist direct participation is absent. For example, a person legally buys any painkiller and acts on his organism in dosed way to eliminate headache. This is medical intervention with distant (remote, hidden) medical specialist (pharmacologist) participation. Thus, as possibly inappropriate mentioning in definition such characteristics as medical specialist compulsory participation. Especially because of this medical intervention legality eliminates many questions.

As seen, in the definition, apart medical tasks, “other” tasks are also mentioned. The thing is that medical manipulations may be implemented in person interests, however, not by medical indications. For instance, personnel of Ministry of Justice in Mexico received implanted in hand radio identification chips (RFID) for their movements control within the ministry and secret database access provision.<sup>5</sup> As it may predict, the “other tasks” list, for which solving legal medical intervention would be needed, will increase in modern life.

Another example.

Recently, the Spanish banking group Banco Sabadell presented a prototype of an NFC chip that can be implanted under the skin, for example, between the index finger and thumb, and paid for with the help of it. Financiers presented such a novelty at the World Mobile Congress in Spain in February 2019. In the changing world of technology, medical interventions will increasingly be used not only to solve medical problems.

## Conclusion

Evaluation of medical intervention as an external factor controlled by a medical specialist and causing the expected response of the adaptive system of a particular patient is important for more correct clinical thinking and also for understanding the essence of medical activity.

The proposed definition (wording) of medical intervention term includes sufficient number of peculiarities that characterize this notion comprehensively. Legal aspects (“legal”, “in the interests of”), as well as biomedical aspects (“dosed influence”, “in order to receive as response its organism expected reactions”) are highlighted.

It is necessary further theoretical research of the concept “medical intervention” as specific relation between doctor and patient having universal regularities, both from biomedical, and from legal (juridical) solidary point of view.

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## Conflicts of interest

The author declares that there is no conflict of interest.

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